

REPLACEMENT CLAIMS

12. (Twice Amended) A method of forming a plurality of dopant pockets on a substrate comprising:

forming a plurality of implantable regions on said substrate separated by field oxide regions, said implantable regions and field oxide regions extending in a first direction;

forming a plurality of word lines located over said implantable regions and field oxide regions, said word lines extending in a second direction perpendicular to said first direction;

forming a layer of photoresist over said field oxide regions and over said plurality of word lines;

patterning said photoresist to expose portions of said field oxide regions between said word lines;

removing portions of said field oxide regions between adjacent word lines to expose respective substrate regions;

forming source regions in said implantable regions; and

implanting a dopant into said substrate through said respective substrate regions to form said dopant pockets beneath said source regions, said photoresist operating as a mask for forming said source regions and said dopant pockets, wherein said act of implanting said dopant into said substrate is carried out before said act of forming said source regions.

19. (Twice Amended) A method of forming source regions with boron pockets on a substrate of a flash memory, said method comprising:

forming a field oxide layer over said substrate;

forming a pair of adjacent spaced word lines over said field oxide layer;

forming a layer of photoresist over said field oxide layer and over said word lines;
patterning said photoresist to expose a portion of said field oxide layer located
between said word lines;

b2
b7c
*removing said field oxide layer from predefined regions located in between said
spaced word lines to expose respective substrate regions;*

forming a source region in between said word lines; and

implanting boron into said substrate in between said word lines to form a boron
pocket beneath said source region, said photoresist operating as a mask for forming said
source region and said boron pocket, wherein the act of implanting boron into said
substrate is carried out before said act of forming said source region.

24. (Twice Amended) A method of forming a source region in a substrate
comprising:

forming a pair of gate structures which extend in a first direction over a
substrate;

altering the upper surface profile of said substrate to form alternating areas of
higher substrate surface elevation and areas of lower substrate surface elevation along said
first direction and between said pair of gate structures;

b2
b7c
providing a layer of photoresist over said pair of gate structures;

patterning said photoresist to expose a portion of said substrate located between
said pair of gate structures;

providing a first doped layer in said substrate between said gate structures which
has a profile which follows that of said upper surface profile; and

providing a second doped layer in said substrate between said pair of gate
structures which is below said first doped layer and which has a profile which follows that of
said first doped layer, said photoresist operating as a mask for providing said first doped

layer and said second doped layer, wherein said act of providing said second doped layer is carried out with an implanting energy higher than an implanting energy for said first doped layer and wherein said second doped layer is provided in said substrate before said first doped layer.